



20<sup>th</sup> Street and Factor Avenue  
Water Quality Assurance Revolving Fund (WQARF) Site  
**Community Involvement Plan**



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**Disclaimer:** All telephone numbers, email addresses, and contact names are subject to change after the date of this publication.

# **Introduction**

## ***CIP Purpose***

The Arizona Department of Environmental Quality (ADEQ) is committed to involving communities in the Water Quality Assurance Revolving Fund (WQARF) site investigation and cleanup process. The Community Involvement Plan (CIP) for the 20<sup>th</sup> Street and Factor Avenue WQARF Site describes how ADEQ will fulfill this commitment. ADEQ will regularly update this plan based on site-specific developments, public comments, and community concerns. ADEQ welcomes community input on this CIP.

## ***WQARF Process***

The goal of the WQARF process is to clean up sites with groundwater and/or soil contamination to protect human health and the environment. Created under the Environmental Quality Act of 1986, WQARF receives funding from legislative appropriations, cost recovery from responsible parties, and special fees.

The WQARF program identifies contaminated sites in significant need of remediation. WQARF Registry sites are assigned an Eligibility and Evaluation (E&E) score based on several factors, such as the nature and extent of contamination and the number of people who may be exposed to the contaminants. The E&E score does not necessarily mean that the site poses a direct risk to human health and/or the environment.

The WQARF process uses a step-by-step approach to thoroughly investigate contaminated sites. ADEQ uses data from the investigation to develop a site-specific cleanup strategy, also called the remedy for the site.

The flowchart in Appendix A depicts each phase in the WQARF process. The glossary contains definitions of each WQARF phase.

## ***ADEQ Spokesperson Contact Information***

The ADEQ designated spokesperson, the Community Involvement Coordinator, will act as liaison between ADEQ and the community near the 20<sup>th</sup> Street and Factor Avenue WQARF Site. The spokesperson will provide notice of public meetings, plan Community Advisory Board meetings, and ensure that CIP requirements are followed. Contact information for the designated spokesperson is below:

### **Community Involvement Coordinator ADEQ**

1110 West Washington Street, 6th Floor, Phoenix AZ 85007

602-316-4270

Or

1-800-234-5677

Fax: 602-771-4272

Email: Marks.Tereza@azdeq.gov

View Community Involvement Contacts Online: [azdeq.gov/WQARF](http://azdeq.gov/WQARF)

## ***Site Information Repository***

The information repository for the 20<sup>th</sup> Street and Factor Avenue WQARF Site contains technical reports, public notices, and this CIP. ADEQ will add site-related documents to the repository as they are completed. The site information repository is available online and in person:

**Online:**

[azdeq.gov/20th-factor](http://azdeq.gov/20th-factor)

**In Person:**

ADEQ Records Center  
1110 West Washington Street  
Phoenix, AZ 85007

602-771-4380

Or

1-800-234-5677

(Please call to make an appointment)

To make alternative arrangements to review documents, contact the ADEQ Community Involvement Coordinator.

## **Site Overview**

The 20<sup>th</sup> Street and Factor Avenue WQARF Site is located in Yuma, Arizona. The Site is approximately bounded by 17th Street to the north, 21st Street to the south, Kennedy Lane to the east, and Fourth Avenue to the west. The site was placed on the WQARF Registry in 2000, with an eligibility and evaluation (E&E) score of 31 out of a possible 120. The major factor leading to the score was the presence of tetrachloroethene (PCE) and trichlorethylene (TCE) in groundwater at levels exceeding Arizona Aquifer Water Quality Standards (AWQS).

The Site consists of the Houston International Limited (HIL) building, impacted soil associated with the building, and the groundwater plume northwest of the property. The Site is located in an urban setting that includes a mixture of commercial businesses, light industrial, warehouses, and residential neighborhoods. The property was undeveloped land prior to early 1965.

From 1966 to 1995, the property was occupied by Houston Photo Products, Inc. (aka Houston Fearless 76, Inc.), a film processing operation and manufacturer of film-processing machines. Wastewater resulting from film development and/or processes associated with film-processing machine manufacturing was discharged to the ground via five wastewater disposal systems. Contaminants of concern (COCs) contained in the wastewater included PCE and TCE as well as cyanide compounds.

In 1993, the HIL and the ADEQ Hazardous Waste Section entered into a compliance order. HIL conducted additional soil and groundwater investigations under the compliance order. Also, in 1993, Houston International moved its motion picture laboratory operation off-site. The site is currently occupied by Houston Fearless International and operates as a multi-tenant building. Tenants include a vending machine company, a gymnastics studio, a furniture warehouse, an electrical supplier, and personal storage by the property owner. These operations do not generate wastewater.

In 2001, ADEQ completed the characterization of cyanide-contaminated soils at the facility. In 2002, ADEQ completed an Early Response Action (ERA) which included excavation and disposal of the upper foot of cyanide-contaminated surface soils. Approximately 1,700 tons of contaminated soils were removed from the facility. A one-foot cap of aggregate base coarse (ABC) material was placed over the remaining cyanide-contaminated soils. This cap was designed to mitigate direct exposure to the underlying contaminated soils remaining at the Site.

The ERA also included the removal of two unused sumps and the cleaning of three active septic systems at the facility. Approximately 15,000 gallons of PCE and cyanide-contaminated wastewater and sludge were removed from the disposal system during cleaning operations. The removal of this source material addressed a continuing source of groundwater contamination.

From 2002 to 2006, ADEQ installed and sampled 21 groundwater monitor wells at the site to define the extent of contamination. Between 2007 to 2012, ADEQ installed an additional 16 monitor wells, six

piezometer wells, and one extraction well at the site for additional groundwater assessment and observation activities.

In May 2012, ADEQ inspected the ABC cap installed in 2002. During the inspection, significant damage was observed in several previously remediated areas at the site. Thus, an engineered cap was installed in 2013 which consisted of asphalt, nonwoven geotextile, and curb and gutter features. Since 2014, the cap has been inspected annually and repaired as needed.

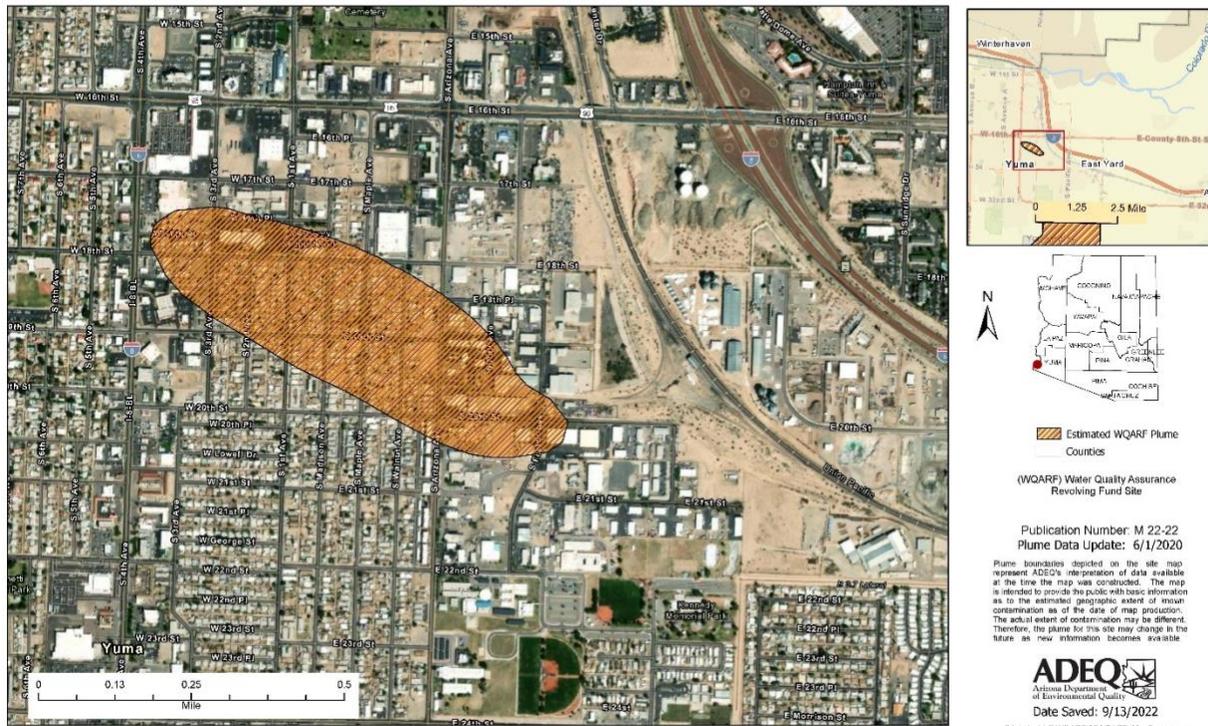
In 2013, ADEQ installed three additional monitoring wells downgradient from the suspected plume contamination.

In 2018, the Record of Decision (ROD) was signed and the remedy for the site was implemented. The remedy as specified by the ROD includes remediating the contamination groundwater at the site utilizing in-situ reductive dechlorination (ERD) and monitored natural attenuation (MNA) and maintaining the engineered cap installed at the source area in 2013.

The following map shows the plume boundaries based on the most recent groundwater monitoring data. This area may change as ADEQ collects more information.

A full history of Site activities is located in Appendix B.

### 20th Street And Factor Avenue



# **Community Profile**

## ***Community Involvement Area (CIA)***

The CIA for the 20<sup>th</sup> Street and Factor Avenue WQARF Site designates a geographic area in which ADEQ will send mass mailings and focus its outreach efforts. CIA boundaries are determined based on site-specific characteristics such as the affected media (i.e., soil, surface water, or groundwater), groundwater flow direction, exposure routes, and proximity to residential areas and public facilities. The CIA may change as ADEQ collects more information.

The map on the following page illustrates the 2022 CIA for the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

## ***Community Demographics***

Demographics help ADEQ plan and implement tailored community involvement activities. The following page displays key demographic information for the CIA for the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

The CIA for 20<sup>th</sup> Street and Factor Avenue WQARF Site is located primarily in Yuma, AZ. The current estimated population of Yuma is 211,931 people<sup>1</sup>.

The CIA is a mostly industrial area within two zip codes (85364 and 85365). An estimated 2,189 people live in 847 households within the CIA. Among CIA residents above age five, 11% speak Spanish only or have limited English, 42% of residents identified English as their only language, and 45% stated they spoke English well or very well. Given the high proportion of Spanish speakers, ADEQ will provide interpretation and translation services as requested.

ADEQ looks at the community as a whole with an emphasis on the proportion of residents under age five and above age 65. These populations are considered more vulnerable to the potential health effects associated with exposure to environmental contamination. In the CIA, approximately 8% of the population is under age five, while 12% is above age 65.

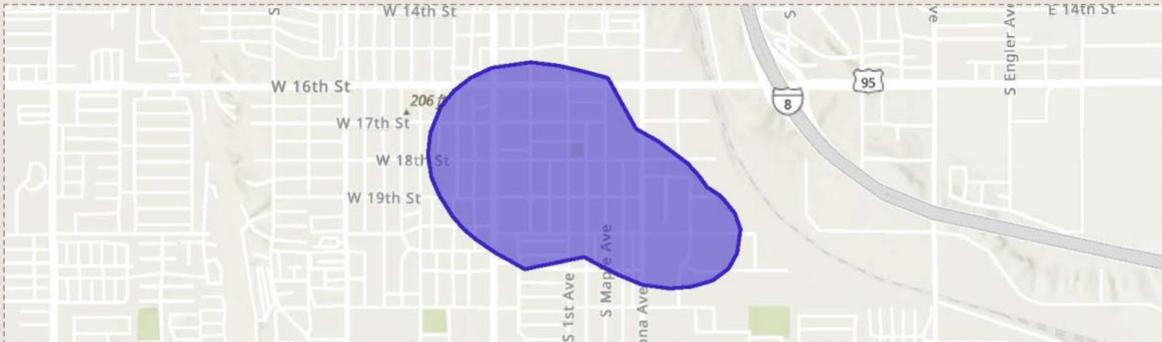
Refer to Appendix C for a list of neighborhood associations, community schools and vulnerable population centers. Appendix D contains a list of elected officials.

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<sup>1</sup> Source: Arizona Demographics Interactive Map Viewer: <https://geo.azmag.gov/maps/azdemographics/>



# Community Involvement Area 20TH ST AND FACTOR AVE



## Population and Households

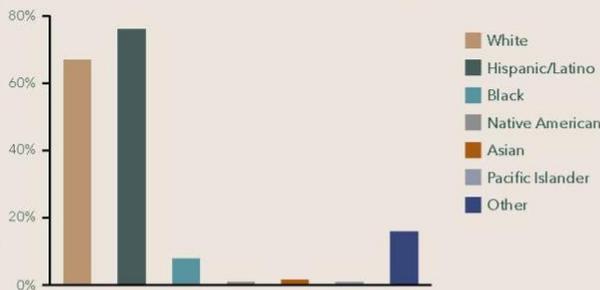


## Vulnerable Aged Population

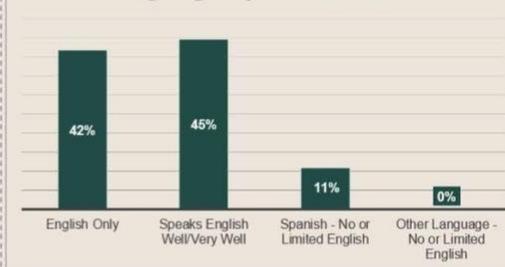


This infographic contains data provided by Esri, ACS, Esri-MRI-Simmons, U.S. Census. The vintage of the data is 2022, 2016-2020, 2027, 2010.

## Race and Ethnicity



## Language Spoken at Home



Data is in accordance with guidelines provided by the U.S. Office of Management and Budget (OMB). The standards have five categories for data on race: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White. People may choose to report more than one race to indicate their racial mixture. People who identify their origin as Hispanic, Latino, or Spanish may be of any race.

## Technology Access at Home



## Population



## **Community Issues and Concerns**

To better understand the community and its concerns, ADEQ conducted interviews with community and former CAB members who live or work near the 20<sup>th</sup> Street and Factor Avenue WQARF Site. The most recent survey results were collected in 2014. The following sections summarize common concerns related to the site along with suggestions for ADEQ outreach activities at that time. ADEQ will use this community feedback to ensure that future outreach addresses community concerns and to determine effective communication methods.

### ***Community Interview Summary***

Many interviewees were familiar with the 20<sup>th</sup> Street and Factor Avenue WQARF Site. Most interviewees were concerned with the severity of the contamination and the length of remedial action activities.

#### **Environmental and health concerns**

Specific environmental and health concerns expressed by the interviewees included the following:

- Can gardens be contaminated from the Site?
- How is the air quality in buildings near the Site?
- How many gallons total contamination had been dumped at the Site?
- How does the Site affect landowners?
- What is the chemistry of the contamination? This person felt unsafe regarding the contamination.

#### **Outreach Recommendations**

Most interviewees felt they had been adequately informed about the Site. However, they suggested the following community outreach and involvement strategies to ADEQ:

##### *Sharing site information:*

- Schools in the path of plume migration or close proximity to the contamination need to be contacted.
- One member felt that “community involvement could wait until the site investigations are due, as not a lot can be done right now.” This comment was made during the RI phase.
- A few respondents stated they would like to see the Site mentioned or broadcast in the local news media in order to make the Site “common knowledge.”

## **Community Involvement Action Plan**

The 20<sup>th</sup> Street and Factor Avenue Community Involvement Action Summary table describes the required community involvement activities for each WQARF phase and notes the date of completed activities. This summary is followed by a description of ADEQ communication techniques to share site information and implement required activities.

### ***Community Involvement Action Summary - Required Activities***

The following table describes the required community involvement actions for the 20<sup>th</sup> Street and Factor Avenue WQARF Site and notes which actions have been completed to date.

## Community Involvement Action Summary

WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
Preliminary Investigation	Provide owners and operators a copy of the Draft WQARF Site Registry Report for a 15-day comment period prior to publishing a notice in a newspaper announcing the availability of the Draft WQARF Site Registry Report for a 30-day public comment period.	A.R.S. § 49-287.01(C) A.R.S. § 49-289.03(A)(1)	February 11, 2000- Notice of Site Listing placed in Yuma Sun March 30, 2000- Site Registry Report	✓
WQARF Registry Listing	Following the listing of a site on the WQARF Registry, ADEQ will: <ul style="list-style-type: none"> <li>• Establish a preliminary community involvement area (see Chapter 2, Section A) within 90 days of site listing on the WQARF Registry.</li> <li>• Provide written notice to the community on hazardous substance contamination in the area, the actual and potential risks and routes of exposure, possible health effects, and the opportunity to join the site mailing list.</li> <li>• Identify ADEQ personnel to contact for further information.</li> </ul>	A.R.S. § 49-289.02	April 2001, November 2012- Fact Sheet and CIA established	✓
	Develop a Community Involvement Plan that establishes a Community Advisory Board, designates a spokesperson, provides for newsletters with current information about the status of remedial actions at the site, establishes a public document repository location, and provides for schedules of Community Advisory Board meetings and public meetings. Update the Community Involvement Plan at least every 2 years.	A.R.S. § 49-287.03(D) A.R.S. § 49-289.03(B) A.R.S. § 49-289.03(C) A.A.C. R18-16-404(C)(1)(i) A.A.C. R18-16-404(C)(1)(j) A.A.C. R18-16-404(C)(1)(k) A.A.C. R18-16-404(C)(1)(o)	January 14, 2013- CIP Outline published May 15, 2013- Spokesperson designated	✓

## Community Involvement Action Summary

WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Early Response Action</b>	<p>A work plan shall be prepared for each Early Response Action that will include a description of work to be done, known site conditions, a plan for conducting the work; a description of community involvement activities for the Early Response Action under R18- 16-404; and a schedule.</p> <p>Community involvement activities may include development of a community involvement plan under A.A.C. R18-16-404(C) or community involvement activities appropriate to the scope and schedule of the work performed such as a general public notice to those who may be impacted by field work as indicated in A.A.C. R18-16-404(D)(2).</p> <p>If immediate action is necessary to address a current risk to public health or the environment, to protect a source of water, or to provide a supply of water, the work plan and written rationale may be prepared and the community involvement activities may be conducted after commencement of the Early Response Action.</p>	<p>A.A.C. R18-16-404                      A.A.C. R18-16-405(D)(2)                      A.A.C. R-18-16-405(E)                      A.A.C. R18-16-405(G)</p>	2002- ERA notice placed in Yuma Sun	✓
<b>Remedial Investigation</b>	<p>Provide notice to interested parties announcing the availability of the Remedial Investigation Scope of Work or Work Plan, Fact Sheet, and Community Involvement Plan outline for review and a 30-day public comment period. Provide notice indicating that any person by written agreement with ADEQ may develop and implement a work plan for the Remedial Investigation and Feasibility Study and solicit information regarding the current and future land and water uses at the site. These notices shall also provide an opportunity to request a public meeting.</p>	<p>A.R.S. § 49-287.03(B)                      A.R.S. § 49-287.03(C)                      A.A.C. R18-16-301(C)                      A.A.C. R18-16-403(F)                      A.A.C. R18-16-403(G)                      A.A.C. R18-16-404(C)(1)(a)                      A.A.C. R18-16-406(B)                      A.A.C. R18-16-406(D)</p>	January 14, 2013- RI work plan and Fact Sheet published in Yuma Sun	✓

*Note: A potentially responsible party search is conducted concurrently with the Remedial Investigation and Feasibility Study, but does not have mandated community involvement activities.*

## Community Involvement Action Summary

WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Remedial Investigation (continued)</b>	<p>Establish a selection committee to choose Community Advisory Board members for the site. The selection committee shall consist of the following number of people from each organization:</p> <ul style="list-style-type: none"> <li>● ADEQ: 1</li> <li>● Potentially Responsible Party: 1</li> <li>● Local Official: 1</li> <li>● Local Community: 2</li> </ul>	A.R.S. § 49-289.03(D)	May 2013- Selection Committee established	✓
	<p>Establish a Community Advisory Board of between 5 to 20 members that represent a diversified cross section of the community. Within 90 days of appointment by the Community Advisory Board selection committee, the Community Advisory Board shall elect co-chairpersons and develop a charter defining operating procedures, membership terms and obligations, goals for developing issues, concerns and opportunities related to quick cleanup of the site, and any other anticipated activities for identifying and improving the public's access and understanding of information regarding the remediation process at the site.</p>	<p>A.R.S. § 49-289.03(C)                      A.R.S. § 49-289.03 (E)                      A.R.S. § 49-289.03(F)</p>	May 15, 2013- CAB established	✓
	<p>Publish a combined public notice announcing the availability of the Draft Remedial Investigation Report for review and a minimum 30-day public comment period and the date of a public meeting to solicit Remedial Objectives for the site. The public meeting shall be held not less than 45 calendar days and not more than 90 calendar days after release of the Draft Remedial Investigation report, unless ADEQ sets a different date for good cause.</p> <p>The Draft Remedial Investigation Report should be provided to the Community Advisory Board, interested local government agencies, affected water providers and the Department of Water Resources.</p>	<p>A.A.C. R18-16-301(C)                      A.A.C. R18-16-404(C)(1)(b)                      A.A.C. R18-16-406(F)                      A.A.C. R18-16-406(I)(1)                      A.A.C. R18-16-406(I)(2)</p>	<p>February 7, 2014- Draft RI Report release for public comment                      March 26, 2014- Public meeting held at Yuma County Main Library.</p>	✓

## Community Involvement Action Summary

WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Remedial Investigation (continued)</b>	<p>Publish a public notice announcing the availability of the Proposed Remedial Objectives Report for a 30-day public comment period.</p> <p>Publish a public notice of the availability of the Final Remedial Investigation Report, which shall contain the results of site characterization and the final Remedial Objectives Report. The final Remedial Investigation report shall be accompanied by responsiveness summaries regarding comments, issues and concerns raised in the community involvement process and, if the report is prepared by a person other than ADEQ, copies of the comments received.</p>	<p>A.A.C. R18-16-301(C)                      A.A.C. R18-16-404(C)(1)(c)                      A.A.C. R18-16-406(I)(5)                      A.A.C. R18-16-406(J)</p>	<p>October 27, 2014- Final RI Report Notice</p>	✓
<b>Feasibility Study</b>	<p>Provide notice to interested parties announcing the availability of the Feasibility Study Work Plan</p> <p>Although not mandated, ADEQ will also provide public notice upon completion of the Feasibility Study.</p>	<p>A.A.C. R18-16-404(C)(1)(d)                      A.A.C. R18-16-407(B)</p>	<p>August 11, 2016- Final FS released                      September 6, 2016- Public notice of FS                      December 15, 2014- Public notice of FS Work Plan                      November 25, 2014- FS Work Plan</p>	✓
<b>Proposed Remedial Action Plan</b>	<p>Publish a public notice announcing the availability of the Proposed Remedial Action Plan for a 90-day public comment period. (If not combined, separate public notices will be provided for the Draft Remedial Investigation/comment period and the Remedial Objectives solicitation and public meeting.) Mail the same notice(s) to interested parties. The notice(s) will describe the proposed remedy and its estimated cost, and identify where the Proposed Remedial Action Plan, Remedial Investigation, and Feasibility Study Reports may be inspected.</p>	<p>A.R.S. § 49-287.04(B)                      A.R.S. § 49-289.03(A)(2)                      A.A.C. R18-16-301(C)                      A.A.C. R18-16-404(C)(1)(e)                      A.A.C. R18-16-408(A)</p>	<p>June 2017-PRAP                      July 12, 2017- Public notice of PRAP</p>	✓
<b>Record of Decision</b>	<p>Publish a public notice announcing the availability of the Record of Decision and Responsiveness Summary for review.</p>	<p>A.R.S. § 49-287.04(G)                      A.A.C. R18-16-404(C)(1)(f)                      A.A.C. R18-16-410</p>	<p>February 26, 2018- Public notice of ROD</p>	✓

**Community Involvement Action Summary**

WQARF Phase	ADEQ Community Involvement Activity	Statute (A.R.S.) and Rule (A.A.C) References	Activity to Date	Complete
<b>Implementation of Remedy (Remedial Actions)</b>	Publish a public notice announcing a request for ADEQ to approve remedial actions at the site. The notice will provide the opportunity for a 30-day public comment period.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(h) A.A.C. R18-16-413		
	Provide notice to the public and interested parties of a request for ADEQ to waive a regulatory requirement (permit) to complete remedial actions.	A.R.S. § 49-290 A.A.C. R18-16-404(C)(1)(l)		
	Provide notice to the public that fieldwork conducted to remove contaminants of concern may result in noise, light, odor, dust, or other adverse impacts.	A.A.C. R18-16-404(C)(1)(m)	Done as needed	
	Provide notice to the public of a request for ADEQ to determine whether each of the Remedial Objectives for a site have been satisfied and will continue to be satisfied. The notice will provide the opportunity for a 30-day public comment period on the request.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(n) A.A.C. R18-16-4-16(B)		
<b>Operation &amp; Maintenance</b>	Publish a public notice announcing the availability of the Operation & Maintenance Plan for review and a 30-day public comment period. Mail the same notice to interested parties.	A.A.C. R18-16-301(C) A.A.C. R18-16-404(C)(1)(g) A.A.C. R18-16-411(E)		
<b>Removal from WQARF Registry</b>	Although not mandated by Arizona Statute or administrative code, ADEQ may publish a public notice upon the removal of the site from the WQARF Registry.	Not Applicable		
<b>Any Phase</b>	Publish a public notice announcing a request to ADEQ for a prospective purchaser agreement. The notice will provide the opportunity for a 30-day public comment period.	A.R.S. § 49-289.03(A)(3) A.A.C. R18-16-301(C)		
	Publish a public notice announcing the intention of ADEQ to enter into a settlement agreement with a responsible party.	A.R.S. § 49-289.03(A)(4) A.A.C. R18-16-301(C)	December 16,2015- Houston International Ltd., qualified business settlement	

	The notice will provide the opportunity for a 30-day public comment period.			
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## ***Community Involvement Techniques***

This section describes the specific activities and resources that ADEQ uses to communicate and engage with stakeholders and community members near the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

ADEQ uses the following community involvement techniques:

1. CAB: The CAB, with assistance from ADEQ, conducted public meetings about the 20<sup>th</sup> Street and Factor Avenue WQARF Site from May 15, 2013 until the ROD was signed in February 2018. The CAB advised ADEQ on sharing site information and provided input on content. CAB members served as an information resource for their community. Per Arizona Revised Statutes § 49-289.03, CAB meetings were open to the public and held at easily accessible locations. CAB meetings were held to receive site briefings, progress reports and other pertinent information in response to site activities or a request from a community advisory board member or a city, town or county in which the site is located. The CAB can be reinstated if the community requests.
2. Local Print Media: ADEQ will publish all WQARF milestone public notices in the Yuma Sun. The Arizona Newspaper Association maintains a database of all public notices published in major Arizona newspapers ([arizonapublicnotices.com](http://arizonapublicnotices.com)). Other media outlets can be found in Appendix F.
3. U.S. Mail and Email Lists: ADEQ created U.S. Mail and email address lists to share updates on the 20<sup>th</sup> Street and Factor Avenue WQARF Site. Anyone can join the site mailing list by contacting the ADEQ Community Involvement Coordinator or registering on GovDelivery ([public.govdelivery.com/accounts/AZDEQ/subscriber/new](http://public.govdelivery.com/accounts/AZDEQ/subscriber/new)).
4. ADEQ Website: ADEQ's website provides visitors with three areas of information related to the site and is updated regularly:
  - Notices Page: contains WQARF site public notices and announces comment periods ([azdeq.gov/notices](http://azdeq.gov/notices)).
  - Events Page: includes information on WQARF site public meetings, including CAB meetings ([azdeq.gov/events](http://azdeq.gov/events)).
  - Site Information Page: provides detailed site information and links to the site information repository ([link to My Community Page](#)).
5. ADEQ Notice Board: Notices are displayed on boards located in ADEQ's Phoenix and Tucson offices.

6. Public Meetings: In addition to CAB meetings, ADEQ may schedule public meetings or open houses as needed or requested. Examples include meetings with neighborhood/homeowner's associations, schools, or other community groups.
7. Site Tours: The public may request site tours through the ADEQ Community Involvement Coordinator. Tours will be arranged in conjunction with the property owners and in compliance with current regulations.

ADEQ takes reasonable measures to provide access to community involvement activities to individuals with limited English proficiency and/or to those with disabilities. The community can request language interpretation, American Sign Language (ASL) interpretation, Communication Access Realtime Translation (CART) captioning services or disability accommodations through the ADEQ Title VI Nondiscrimination Coordinator at 602-771-2288 or [Drago.Leonard@azdeq.gov](mailto:Drago.Leonard@azdeq.gov)).

The following table of Communication Techniques illustrates how these techniques have and will be used throughout the WQARF process for the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

## Communication Techniques

Communication Deliverable			Communication Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
<b>Notice</b>	Provide notice of availability of milestone documents, request comments, and solicit input.	Per mandate (See Community Involvement Action table).	✓	✓	✓ <i>(site and calendar pages)</i>	✓ <i>(Yuma Sun)</i>	✓
<b>CAB or Public Meeting Notice/Agenda</b>	Provide two-way communication about the status of site activities. The notice announces the meeting and provides the agenda.	Variable schedule based on level of site activity as scheduled by CAB and ADEQ, with the exception of the required public meeting for the solicitation of remedial objectives (see Community Involvement Action table).	✓	✓	✓ <i>(site, calendar, and CAB history pages)</i>	Not Applicable	✓
<b>Technical Presentation</b>	Provide current information about site activity or related topics.	At CAB meetings or at specially requested public meetings.	✓	Not Applicable	✓ <i>(site page)</i>	Not Applicable	Not Applicable
<b>Technical Milestone Document</b>	Provide current technical information about site investigation/remediation activities (e.g., Remedial Investigation, Feasibility Study, etc.)	According to the WQARF Process as documents are developed and become available.	✓	Not Applicable	✓ <i>(information repository)</i>	Not Applicable	Not Applicable
<b>Site Fact Sheet</b>	Provide current information about the site activity.	Published at the start of the Remedial Investigation and at specific milestones or other times as deemed appropriate by ADEQ and the CAB.	✓	✓	✓ <i>(information repository)</i>	Not Applicable	Not Applicable

## Communication Techniques

Communications Deliverable			Communications Recipients/Methods				
Type	Why	When	CAB Members	Interested Parties List	ADEQ Website	Local Print Media	ADEQ Notice Board
<b>Public Meeting to solicit Remedial Objectives</b>	Provide forum to solicit Remedial Objectives. (Note that this meeting may be conducted in conjunction with a CAB meeting.)	After release of Draft Remedial Investigation Report.	✓	✓	✓ <i>(site and calendar pages)</i>	✓ <i>(Yuma Sun)</i>	✓
<b>Public notice announcing a prospective purchaser agreement</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ <i>(online information repository)</i>	✓ (Newspaper of general circulation in Yuma County)	Not Applicable
<b>Public notice announcing settlement agreement with a responsible party.</b>	Provide notice of availability and request comments.	Per mandate (see Community Involvement Action table).	✓	✓	✓ <i>(online information repository)</i>	✓ (Newspaper of general circulation in Yuma County)	Not Applicable
<b>Site Tour</b>	Provide walking or driving tour of the site to observe current site conditions and the surrounding community and environment.	If requested, and with cooperation of current property owners.	Contact ADEQ Community Involvement Coordinator.				

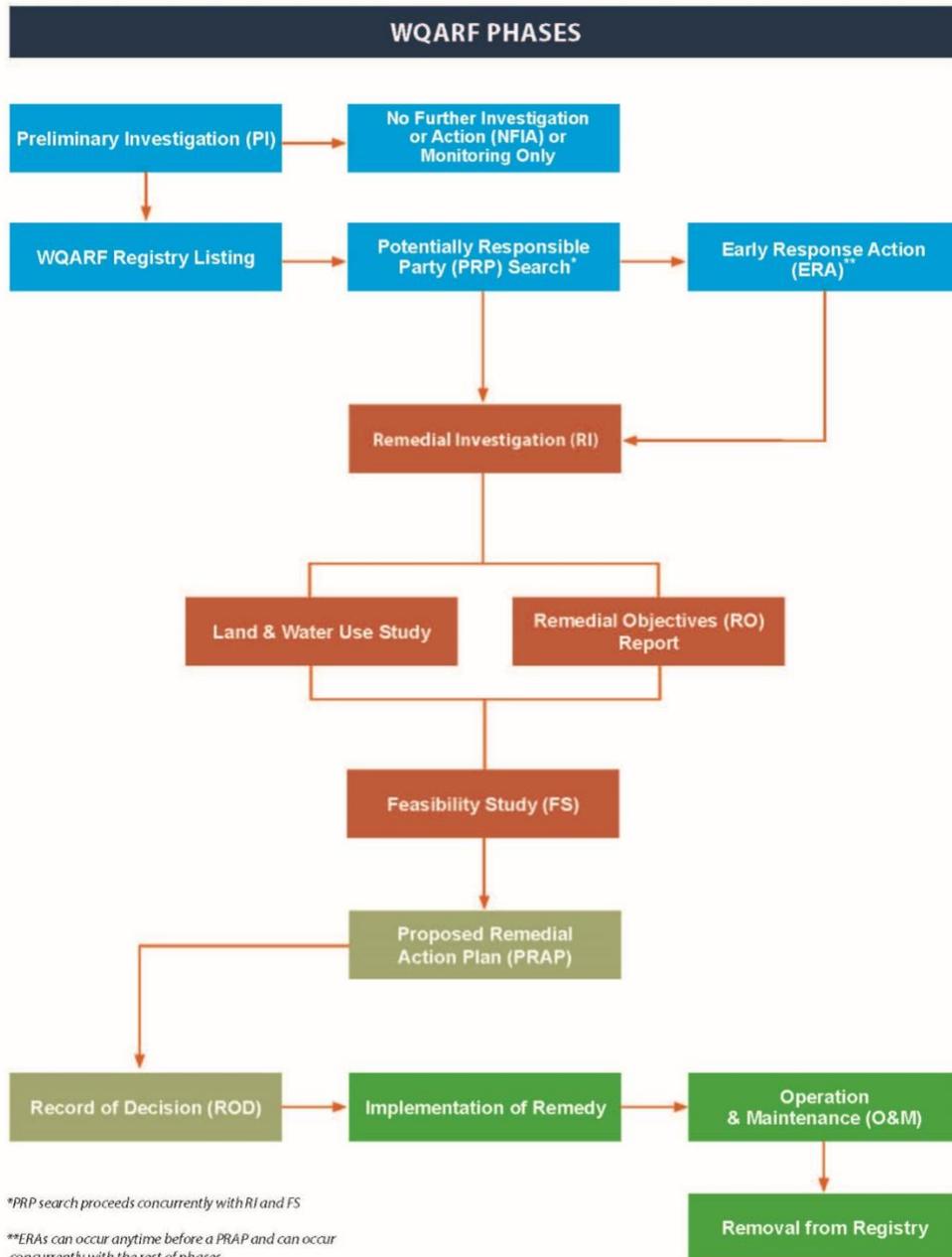
# **APPENDICES**

The following appendices provide additional resources to support community involvement for the 20<sup>th</sup> Street and Factor Avenue WQARF Site:

- Appendix A: WQARF process flowchart
- Appendix B: History of major activities at the 20<sup>th</sup> Street and Factor Avenue WQARF Site.
- Appendix C: Targeted communities in the CIA for the 20<sup>th</sup> Street and Factor Avenue WQARF Site.
- Appendix D: Elected officials representing communities within the CIA.
- Appendix E: Current CAB members for the 20<sup>th</sup> Street and Factor Avenue WQARF Site.
- Appendix F: Local media outlets in the area.
- Appendix G: Related state and local agencies.
- Appendix H: Prospective purchaser agreements for property in and around the 20<sup>th</sup> Street and Factor Avenue WQARF Site.
- Appendix I: Consent decrees and settlements related to the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

# Appendix A

## WQARF Process Chart



## ***Appendix B***

### **Site History**

**1966 – 1988** HPP operated a motion picture laboratory and a facility, which also manufactured photographic film and paper processing equipment for the photo industry.

The chemicals used at the facility include standard photographic chemicals, namely PCE, small amounts of various other photographic chemicals and water. The wastewater at the facility was treated to recover silver. The treated wastewater was disposed in three ways:

- Some of the wastewater was discharged to a 1,000-gallon concrete underground sump on the east side of the property.
- When this sump was full, it was discharged to a disposal pond on the east side of the property.
- Wastewater from this disposal pond overflowed onto the adjacent property to the east of the site.

Beginning in 1975, HPP used PCE to clean stainless steel machine parts.

On one occasion in 1978, PCE was discharged to the 1,000-gallon concrete underground tank.

Wastewater was used to water plants in landscaped areas at the front of the building. Wastewater was discharged to the ground in the southwest portion of the property by a sprinkler system and later to a sump.

In 1988, HPP changed its name to HIL.

**1995 – 1990** HIL reported a leaking tank to the ADEQ Underground Storage Tanks (UST) Section. The ADEQ UST Section referred the facility to the ADEQ Water Pollution Compliance Unit. Consultants for HIL conducted soil and groundwater investigations under the oversight of the Water Pollution Compliance Unit.

In 1990, PCE and metals were detected in on-site soils. Subsequent soil investigations indicated that PCE was present in soil at concentrations below the Arizona Residential Soil Remediation Level (SRL) of 53,000 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ).

In 1991, HIL began to use Industroclean (which contains ethylene glycol monobutyl ether) in place of PCE.

Consultants for HIL installed three groundwater monitor wells (MW-1, MW-2, and MW-3) and performed groundwater sampling in 1993. The PCE concentrations exceeded the AWQS for PCE of 5.0 micrograms per liter ( $\mu\text{g/l}$ ).

Also, in 1993, the ADEQ Hazardous Waste Section (HWS) inspected the Facility, and, in 1994, HIL and the ADEQ HWS entered into a compliance order. Consultants for HIL conducted additional soil and groundwater investigations under the compliance order.

In 1994, a soil vapor survey was conducted. Elevated concentrations of PCE were present in the soil vapor samples. TCE and 1,1,1-trichloroethane were also detected in soil vapor samples. HIL moved its motion picture laboratory operation off-site. The facility is currently occupied by operations that do not generate wastewater.

- 1996** One nested groundwater monitoring well (MW-102) and one upgradient monitor well (MW-101) were installed at the Site. The maximum PCE concentration detected was 520  $\mu\text{g/l}$  in MW-2 at 140 to 150 feet below ground surface (bgs).
- 1998 – 2000** In 1998, the ADEQ HWS referred the Facility to the ADEQ Superfund Programs Section, Site Assessment Unit. The Site was placed on the WQARF Registry in March 2000 with a score of 31 out of a possible 120.
- 2002** ADEQ completed an ERA at the Site, which included excavation and disposal of the upper foot of cyanide-contaminated surface soils. Approximately 1,700 tons of contaminated soils were removed from the Site. A one-foot cap of ABC material was placed over the remaining cyanide-contaminated soils. This cap helped prevent direct exposure to the underlying contaminated soils remaining at the Site. The ERA also included the removal of two unused sumps and the cleaning of three active septic systems at the Site. Approximately 15,000 gallons of PCE and cyanide-contaminated wastewater and sludge were removed from the disposal system during cleaning operations. The removal of this source material addressed a continuing source of groundwater contamination.
- 2003** Soil and soil vapor samples were collected from six borings at the site. Samples were collected to evaluate the vertical extent of PCE contamination. Sampling results indicated that the concentrations of PCE remaining in the soil did not exceed regulatory standards.
- 2004** ADEQ collected indoor air data from the buildings on the property and one building adjacent to the property. This data was collected as part of an ongoing risk assessment of the indoor air at the Site. ADEQ also drilled and sampled four deep borings beneath two of the remaining septic tanks and the former disposal pond area. The purpose of these borings was to evaluate the cyanide contamination at depth in these areas.

Cyanide contamination above the non-residential SRL extended to a depth of approximately 17 feet bgs in some areas of the site. ADEQ used these data and other information to develop groundwater protection levels for the cyanide contaminated soils remaining in place.

Also, ADEQ drilled and sampled two deep groundwater monitor wells at the Site. Analysis of groundwater samples from these deep wells did not indicate PCE or cyanide contamination above AWQS.

- 2005 – 2006** ADEQ drilled and sampled ten additional groundwater monitor wells to further define the extent of the contaminant plume. Laboratory analyses from these monitor wells indicated that the contaminant plume extended approximately ½ mile downgradient of the Site. The lateral extent of the plume had not yet been fully characterized.
- 2007** Installation of additional deep groundwater monitor wells indicated that groundwater was present in three distinct zones: shallow (50 to 90 feet bgs); middle (105 to 170 feet bgs) and deep (starting at 170 feet bgs). Each zone is divided by separate clay units. Groundwater samples from each zone indicated that the majority of the contaminant plume was located within the middle zone.
- 2008** ADEQ installed one groundwater extraction well in the middle of the contaminant plume. An aquifer test was completed to determine aquifer characteristics. The last remaining septic system on the HIL property was taken out of service and replaced with a new system and leach field located away from contaminated soil. Additional information was gathered north of the HIL property to locate potential sources areas.
- 2009 – 2011** A soil vapor investigation was performed which included the installation of several permanent soil vapor monitor probes and a soil vapor survey in order to help identify potential source areas. Additional permanent soil vapor monitor probes were installed and groundwater samplings were conducted. ADEQ continued to investigate the Site to identify the extent of the groundwater contamination. Groundwater sampling results indicated that the PCE plume extended over 4,000 feet downgradient from the Site.
- 2012** ADEQ continued to investigate the site to identify the extent and severity of the groundwater contamination. ADEQ finalized plans to install a permanent asphalt-based cap over the cyanide impacted soils still remaining at the Site below a depth of one foot. This cap would limit further impacts to the groundwater beneath the Site by minimizing the amount of cyanide leaching from cyanide contaminated soils.
- 2013** ADEQ completed the installation of a permanent asphalt-based cap over the cyanide impacted soils. This cap will limit human access to these soils and limit further impacts to the groundwater beneath the Site by minimizing the amount of cyanide leaching

from cyanide contaminated soils. ADEQ installed three additional wells down gradient of the Site and the horizontal and vertical definition of the plume was complete. ADEQ was finalizing the draft RI report. Groundwater monitoring is at a minimum conducted annually at the Site.

- 2014** During 2014, ADEQ installed seven additional soil vapor monitor wells at the Site. A round of soil vapor sampling was also conducted. Soil vapor samples were analyzed for hydrogen cyanide and VOCs including PCE and TCE. No samples detected hydrogen cyanide. PCE and TCE were detected at concentrations below ADEQ's suggested soil vapor screening levels. ADEQ completed the draft RI report, solicited comments on the draft RI and on the Proposed Remedial Objectives.
- 2015** During March 2015, ADEQ completed one round of groundwater monitoring at the Site. PCE concentrations and distribution in the upper part of the aquifer remained relative constant with the highest PCE concentration detected at a concentration of 54 parts per billion. In the middle portion of the aquifer, PCE concentrations and distribution also remained relatively constant with the exception of one well where concentrations continued to rise and PCE was detected at 1000 parts per billion. The AWQS for PCE is 5 parts per billion.
- In the upper part of the aquifer, cyanide concentrations remained above the AWQS of 200 parts per billion in one monitor well. In the middle part of the aquifer, cyanide was present at 200 parts per billion in one monitor well. Cyanide concentrations in the middle part of the aquifer continued to separate from the source area.
- No contaminants were detected above standards in the deeper part of the aquifer.
- 2016** A downgradient deep monitor well was installed in January. ADEQ completed one round of groundwater monitoring and sampling at the Site. COC concentrations and distribution in the aquifer remained relative constant. The FS report was completed in August.
- 2017** The Proposed Remedial Action Plan (PRAP) was completed in June 2017 and issued for public review and comment. The proposed remedy for the site is monitoring and maintenance of the engineered asphaltic concrete cap and *in situ* ERD with monitored natural attenuation (MNA).
- 2018** The Record of Decision was signed.
- 2019** ADEQ implemented the remedy which included monitoring and maintenance of the existing asphalt cap, *in situ* Chemical Oxidation (ISCO) groundwater treatment, and MNA.

**2020-2022** ADEQ conducted groundwater remediation activities at the Site. The asphalt cap at the source property is inspected annually.

# ***Appendix C***

## **Targeted Communities**

### ***Neighborhood Associations***

**James Jefferson Manor** 928-373-9275  
1350 W 5<sup>th</sup> St., Yuma, AZ 85364

**Walnut Avenue Trailer Park** 928-329-9434  
1946 Walnut Ave., Yuma, AZ 85364

### ***Schools***

**Alice Byrne Elementary School** 928-782-9585  
811 W 16<sup>th</sup> St, Yuma, AZ 85364  
[alicebyrne.yuma.org](http://alicebyrne.yuma.org)

**Amerischools Academy** 928-329-1100  
2098 S 3<sup>rd</sup> Ave, Yuma, AZ 85364  
[amerischools.org/yuma-south](http://amerischools.org/yuma-south)

**CW McGraw Elementary School** 928-502-7700  
2345 S Arizona Ave, Yuma, AZ 85364  
[mcgraw.yuma.org](http://mcgraw.yuma.org)

**Desert View Academy** 928-214-1102  
2363 S Kennedy Lane, Yuma, AZ 85365  
[dva.dvsk12.com](http://dva.dvsk12.com)

**Gila Vista Junior High School** 928-502-7100  
2245 S Arizona Avenue, Yuma, AZ 85364  
[gilavista.yuma.org](http://gilavista.yuma.org)

**Harvest Preparatory School** 928-782-2052  
350 E 18<sup>th</sup> St, Yuma AZ 85364  
[www.harvestprep.com](http://www.harvestprep.com)

**St. Francis of Assisi Catholic School** 928-329-8909  
700 W 18<sup>th</sup> Street, Yuma, AZ 85364  
[stfrancisschoolyuma.org](http://stfrancisschoolyuma.org)

**Yuma Adventist Christian School** 928-783-0457  
1681 S 6<sup>th</sup> Avenue, Yuma, AZ 85364  
[www.yumaadventistchristianschool.org](http://www.yumaadventistchristianschool.org)

**Yuma Elementary School District** 928-502-4300  
450 W 6<sup>th</sup> Street, Yuma AZ 85364  
[www.yuma.org](http://www.yuma.org)

### ***Vulnerable Population Centers***

**Casa de Ninos** 928-782-7770  
585 E 16<sup>th</sup> Street, Yuma, AZ 85365

**Happy Faces Complete Child Care** 928-539-9988  
1901 S 7<sup>th</sup> Avenue, Yuma, AZ 85364

**Happy Trails Preschool Daycare** 928-945-9199  
11607 S Fortuna Road, Yuma, AZ 85367

**Harvest Preschool Childcare** 928-276-4286  
1793 S 1<sup>st</sup> Avenue, Yuma, AZ 85364  
[harvestprepre.sharpschool.net/cms/One.aspx?portalId=1135920](http://harvestprepre.sharpschool.net/cms/One.aspx?portalId=1135920)

**Hospice of Yuma** 928-343-2222  
1824 S 8<sup>th</sup> Avenue, Yuma, AZ 85364  
[hospiceofyuma.com](http://hospiceofyuma.com)

**Treehouse Kids Club** 928-783-8733  
1730 S 4<sup>th</sup> Avenue, Yuma, AZ 85364  
[www.treehouseyuma.com](http://www.treehouseyuma.com)

## ***Appendix D***

### **Elected Officials**

As of the publication of this community involvement plan, the community involvement area for the 20<sup>th</sup> Street and Factor Avenue WQARF Site falls under two Yuma County Districts (2 and 5) and Arizona Legislature District 4 and 13.

Yuma City Council	Yuma County Board of Supervisors	Arizona State Senators	Arizona State Representatives
City Administration One City Plaza Yuma, AZ 85364 <a href="http://glendaleaz.com/your_government/city_council">glendaleaz.com/your_government/city_council</a>	198 S Main Street Yuma, AZ 85364 <a href="http://phoenix.gov/mayorcouncil">phoenix.gov/mayorcouncil</a>	1700 W. Washington St Phoenix, AZ 85007 <a href="http://azleg.gov/memberroster">azleg.gov/memberroster</a>	1700 W. Washington St Phoenix, AZ 85007 <a href="http://azleg.gov/memberroster">azleg.gov/memberroster</a>
<b>Mayor</b> Douglas Nicholls 928-373-5002	<b>District 2 Supervisor</b> Jonathan Lines 928-373-1010 <a href="mailto:Jonathan.Lines@yumacountyaz.gov">Jonathan.Lines@yumacountyaz.gov</a>	<b>District 4 Senator</b> Lisa Otondo Room 315 602-926-3002 <a href="mailto:lotondo@azleg.gov">lotondo@azleg.gov</a>	<b>District 4 Representative</b> Brian Fernandez Room 331 602-926-3098 <a href="mailto:bfernandez@azleg.gov">bfernandez@azleg.gov</a>
<b>Deputy Mayor</b> Leslie McClendon 928-373-5002	<b>District 5 Supervisor</b> Lynne Pancrazi 928-373-1010 <a href="mailto:lynne.pancrazi@yumacountyaz.gov">lynne.pancrazi@yumacountyaz.gov</a>	<b>District 13 Senator</b> Sine Kerr Room 302 602-936-5955 <a href="mailto:skerr@azleg.gov">skerr@azleg.gov</a>	<b>District 4 Representative</b> Joel John Room 306 602-926-3276 <a href="mailto:jjohn@azleg.gov">jjohn@azleg.gov</a>
<b>Councilmember</b> Gary Knight 928-373-5002			<b>District 13 Representative</b> Tim Dunn Room 114 602-296-4139 <a href="mailto:tdunn@azleg.gov">tdunn@azleg.gov</a>
<b>Councilmember</b> Chris Morris 928-373-5002			<b>District 13 Representative</b> Joanne Osbourne Room 112 602-926-3181 <a href="mailto:josborne@azleg.gov">josborne@azleg.gov</a>
<b>Councilmember</b> Michael Shelton 928-373-5002			
<b>Councilmember</b> Ema Lea Shoop 928-373-5002			
<b>Councilmember</b> Karen Watts 928-373-5002			

## ***Appendix E***

### **Community Advisory Board**

The Community Advisory Board (CAB) for the 20<sup>th</sup> Street and Factor Avenue WQARF Site has been disbanded, as the Site has reached the Record of Decision (ROD). The CAB can be reinstated at the request of the community.

# ***Appendix F***

## **Media Outlets**

The community may use any media outlets to share information on the 20<sup>th</sup> Street and Factor Avenue WQARF Site. ADEQ will publish all site-related public notices in the *Yuma Sun*. All future public notices for the 20<sup>th</sup> Street and Factor Avenue WQARF Site can be found by searching [arizonapublicnotices.com](http://arizonapublicnotices.com).

### ***Newspapers and Magazine***

**The Arizona Republic** 602-444-8000  
PO Box 2254, Phoenix AZ 85002  
[website](#)

**The Arizona Business Gazette** 602-444-8000  
PO Box 194, Phoenix, AZ 85001  
website

**The Yuma Sun and Bajo El Sol** 928-783-3333  
2055 Arizona Avenue, Yuma, AZ 85364  
[website](#)

**Yuma Daily News** 928-344-4980  
755 West 28<sup>th</sup> Street, Yuma, AZ 85364  
<https://www.yumadailynews.com/>

### ***Radio***

**KAWC** 928-344-7690  
PO Box 929, Yuma, AZ 85366  
[www.kawc.org](http://www.kawc.org)

**KCEC** 928-782-5995  
670 East 32<sup>nd</sup> Street, Suite 12A, Yuma, AZ 85364  
[campesina.com/estaciones/yuma](http://campesina.com/estaciones/yuma)

**KCFY** 928-341-9730  
1921 South Rail Avenue, Yuma, AZ 85364

[www.kcfyfm.com](http://www.kcfyfm.com)

**Monster Media (KCYK and KLJZ)**

928-782-4321

949 South Avenue B, Yuma, AZ 85364

<https://www.monstermediayuma.com/>

**EDB VV License (KQSR KBLU and KTTI)**

928-344-4980

755 West 28<sup>th</sup> Street, Yuma, AZ 85364

[mix1009fm.com](http://mix1009fm.com)

[kttifm.com](http://kttifm.com)

<https://kbluam.com/>

**KUKY**

928-344-3727

2433 East Palo Verde Street, Yuma, AZ 85365

**KYRM**

928-341-0919

1830 S 8<sup>th</sup> Avenue, Yuma, AZ 85364

[www.manantialyuma.org](http://www.manantialyuma.org)

**KYVD**

928-210-9764

PO Box 5208, Yuma, AZ 85366

[www.manantialyuma.org](http://www.manantialyuma.org)

**Television**

**KECY/KESE. KWST. KYMA**

KECY/KESE: 928-685-9990

1965 South 4<sup>th</sup> Avenue, Yuma, AZ 85364

KYMA: 928-782-1111

[yourtvfamily.com](http://yourtvfamily.com)

KWST: 928-782-5113

# **Appendix G**

## **Local and State Agencies**

The following list presents additional agencies that may be used by the public to address concerns related to the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

### ***State of Arizona***

**Department of Health Services:** Environmental Health 602-542-1025  
150 N 18th Ave Phoenix, AZ 85007 [azdhs.gov/environmentalhealth](http://azdhs.gov/environmentalhealth)

**Department of Water Resources:** Permitting and Wells 602-771-8527  
1110 W Washington St, Ste 310, Phoenix, AZ 85007 [new.azwater.gov/permitting-wells](http://new.azwater.gov/permitting-wells)

### ***Other***

**Agency for Toxic Substances and Disease Registry – Region 9** 800-232-4636  
75 Hawthorne St, Ste 9410 M/S:HHS-1, San Francisco, CA 94105  
[atsdr.cdc.gov](http://atsdr.cdc.gov)

**Arizona Association of Realtors:** Real Estate Seller Disclosures 602-248-7787  
255 E Osborn Rd #200, Phoenix, AZ 85012  
[aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure-Statement-SPDS\\_REV\\_01Oct2017.pdf](http://aaronline.com/wp-content/uploads/2017/10/Residential-Sellers-Property-Disclosure-Statement-SPDS_REV_01Oct2017.pdf)

**City of Yuma Utilities Department** 928-373-4500  
155 West 14<sup>th</sup> Street, Yuma, AZ 85364  
[www.yumaaz.gov/government/utilities](http://www.yumaaz.gov/government/utilities)

**Neighborhood Services Department** 928-373-5175  
One City Plaza, Yuma, AZ 85364  
[www.yumaaz.gov/government/community-development/neighborhood-services](http://www.yumaaz.gov/government/community-development/neighborhood-services)

**Recycling Program/Solid Waste** 928-373-4500  
155 West 14<sup>th</sup> Street, Yuma, AZ 85364  
[www.yumaaz.gov/government/public-works/solid-waste-division](http://www.yumaaz.gov/government/public-works/solid-waste-division)

## ***Appendix H***

### ***Prospective Purchaser Agreements***

No parties have requested or received prospective purchaser agreements from the Arizona Department of Environmental Quality for properties in or around the 20<sup>th</sup> Street and Factor Avenue WQARF Site.

# ***Appendix I***

## **Consent Orders and Settlements**

The following table presents a list of parties that have entered into qualified business settlements with the ADEQ for properties in or around the 20<sup>th</sup> Street and Factor Avenue WQARF Site as of October 2022.

<b>Party Name</b>	<b>Date of Settlement</b>
Houston International, Ltd.	Dec. 16, 2015

# **Acronyms and Glossary of Terms**

**Aggregate Base Coarse (ABC):** A sublayer material that provides a supportive foundation. The aggregates derive from concrete, recycled asphalt or quarried rock.

**Aquifer:** An underground rock formation composed of such materials as sand, soil, or gravel, that can store groundwater and supply it to wells and springs. In aquifers, groundwater occurs in sufficient quantities to be used for drinking water, irrigation and other purposes.

**Aquifer Water Quality Standards (AWQS):** State of Arizona maximum levels for contaminants which apply to groundwater in aquifers designated for drinking water use. For example, the AWQS for tetrachloroethene is 5 micrograms per liter ( $\mu\text{g/L}$ ).

**Arizona Administrative Code (A.A.C.):** The publication in which the official rules of the state of Arizona are published. The *Code* is the official compilation of rules that govern state agencies, boards and commissions.

**Arizona Department of Environmental Quality (ADEQ):** ADEQ is the executive agency of the Arizona State Government mandated to enforce and administer the State's environmental laws and regulations.

**Arizona Revised Statutes (A.R.S.):** State laws adopted by the Arizona State Legislature.

**Cleanup:** Actions taken that deal with a release or threat of a release of hazardous substances that could adversely affect public health and/or the environment. The word "cleanup" is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Community Advisory Board (CAB):** A diverse group of community members interested in or affected by the presence of a WQARF site. By statute, ADEQ is required to form a CAB for each WQARF Registry site where ADEQ is initiating a Remedial Investigation. ADEQ seeks the CAB's input in the decision-making process and works with them from the onset of the RI/FS process until the requirements of the record of decision have been fulfilled.

**Community Involvement Area:** The mailing area of residences and businesses used in the notification for public meetings and other written notices regarding a site.

**Community Involvement Coordinator:** The ADEQ employee responsible for ensuring that all statutes and rules related to the involvement of the public and public outreach at WQARF sites are upheld and complied with by ADEQ. Community Involvement Coordinators manage and coordinate the work of CABs for WQARF sites.

**Community Involvement Plan (CIP):** A document that identifies techniques used by ADEQ and EPA to communicate effectively with the public during the Superfund cleanup process at a specific site. This plan

describes the site history, nature and history of community involvement, and concerns expressed during community interviews. In addition, the plan outlines methodologies and timing for continued interaction between the Agencies and the public at the site.

**Contamination:** Any hazardous or regulated substance released into the environment.

**Contaminant:** Any physical, chemical, biological or radiological substance or matter present in any media at concentrations that may result in adverse effects on air, water or soil. A harmful or hazardous matter introduced into the environment that is not normally found there, or not naturally occurring.

**Early Response Action (ERA):** Refers to a remedial action performed prior to the final remedy, and often prior to the Remedial Investigation. An ERA addresses current risks to public health, welfare and the environment; protects or provides a supply of water; addresses sources of contamination; or controls or contains contamination where such actions are expected to reduce the scope or cost of the remedy needed at the site. Also referred to as an interim remedial action.

**Eligibility and Evaluation score (E&E):** ADEQ's method to prioritize sites for investigation and cleanup. The score is based on multiple criteria and does not always mean there is a current threat to health.

**Enhanced Reductive Dechlorination (ERD):** The process of modifying chemical, physical, and biological conditions in the aquifer to stimulate the microbial degradation of contaminants under anaerobic conditions to harmless end products.

**Feasibility Study (FS):** A process to identify a reference remedy and alternative remedies that appear to be capable of achieving the Remedial Objectives for the site. It is often done as part of a two-phase investigation in conjunction with a Remedial Investigation (RI/FS).

**Groundwater:** Water located beneath the ground surface in soil pore spaces and in the fractures of geologic formations. A formation of rock or soil is called an aquifer when it can yield a usable quantity of water.

**Hazardous Substance:** Any material that, because of its quantity, concentration, physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment.

**Information Repository:** A collection of documents about a specific project. Information on certain WQARF and Superfund sites may be available at ADEQ offices and libraries throughout the state.

**In Situ Chemical Oxidation (ISCO):** A remediation technology that can be applied to groundwater or soils and many different contaminants where strong oxidants are injected or mechanically mixed into the treatment zone to promote destructive abiotic degradation reactions.

**Monitoring Well (Monitor Well):** A well installed for the purpose of collecting samples such as groundwater and soil gas. Analytical results from samples are used to characterize the extent of

contamination, the direction of groundwater flow and the types and quantities of contaminants present in the groundwater.

**Monitored Natural Attenuation (MNA):** A remediation technology that relies on naturally occurring and demonstrable processes in soil and groundwater which reduces the mass and concentration of contaminants.

**Piezometer Well:** A well that is designed and drilled for the purpose of monitoring water levels within a specific depth interval.

**Potentially Responsible Party (PRP):** A party (individual or corporation) identified by state or federal authorities as potentially liable for cleanup costs at a contaminated site.

**Preliminary Investigation (PI):** The process of collecting and reviewing available information about a known or suspected hazardous waste site or release.

**Proposed Remedial Action Plan (PRAP):** A document that reviews the cleanup alternatives presented in the site Feasibility Study and identifies ADEQ's preferred alternative. Selection of a preferred alternative is not a closed-end commitment to use that alternative; rather, it is a way for the agency to indicate, based on experience and expertise, which alternative is the most likely course of action. ADEQ must actively solicit public review of and comment on all the alternatives under consideration.

**Public Comment Period:** A period during which the public can formally review and comment on various documents and ADEQ actions.

**Record of Decision (ROD):** A legal document that announces and explains the cleanup methods ADEQ will use at a Superfund/WQARF site. The Record of Decision is based on information and technical analysis generated during the Remedial Investigation and Feasibility Study, and on consideration of comments received during the public comment record for the Proposed Remedial Action Plan.

**Remedial Action (RA):** Any action taken to investigate, monitor, assess and evaluate the release or threat of release of hazardous substances or contaminants to the environment. It may also refer to the actual "cleanup" of the environment by various removal, treatment, monitored remediation, or corrective actions. The term cleanup is sometimes used interchangeably with the terms remedial action, removal action, response action, remedy, remediation, or corrective action.

**Remedial Investigation (RI):** Establishes the nature and extent of the contamination and the sources; identifies current and potential impacts to public health, welfare and the environment; identifies current and reasonable foreseeable uses of land and waters of the state; and obtains and evaluates any information necessary for identification and comparison of alternative remedial actions.

**Remedial Objective (RO):** Established remedial goals for the current and reasonably foreseeable uses of lands and waters of the state that have been or are threatened to be affected by a release of hazardous substance.

**Remediation:** Cleanup or other methods used to remove or contain a toxic spill or hazardous materials.

**Remedy:** Cleanup method chosen for a site.

**Responsible Party:** An individual or company (e.g., an owner, operator, transporter, or generator of hazardous waste) that is responsible for the contamination problems at a Superfund/WQARF site. Whenever possible, responsible parties are required to clean up hazardous waste sites they have contaminated.

**Responsiveness Summary:** A summary of oral and written comments (and ADEQ responses to those comments) received during the public comment period.

**Soil Remediation Level (SRL):** A pre-determined risk-based standard protective for residential or non-residential use based upon the total contaminant concentration in soil. In addition to meeting the SRLs, it must also be shown that soil contaminant levels do not: 1) Cause or threaten to cause a violation of Water Quality Standards that are protective of aquifer water quality and surface water quality; 2) Exhibit a hazardous waste characteristic of ignitability, corrosivity, or reactivity; and 3) Cause or threaten to cause an adverse impact to ecological receptors. SRLs have replaced what were known as Health-Based Guidance Levels or HBGLs.

**Soil Vapor Extraction (SVE):** Soil vapor extraction removes contaminant vapors from below ground for treatment above ground. Soil vapor extraction removes vapors from the soil above the water table by applying a vacuum to pull the vapors out. The method is used for chemicals that evaporate easily, such as those found in solvents and gasoline.

**Superfund:** The federal program operated under the legislative authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) that funds and carries out U.S. Environmental Protection Agency solid waste emergency and long-term removal and remedial activities. These activities include establishing the National Priorities List, investigating sites for inclusion on the list, determining their priority and conducting and/or supervising cleanup and other remedial actions. It provides for the cleanup of hazardous substances released into the environment, regardless of fault. The term Superfund also is used to refer to cleanup programs designed and conducted under CERCLA and its subsequent amendments.

**Tetrachloroethene or Tetrachloroethylene or Perchloroethene (PCE):** A clear, colorless, liquid with a chloroform or sweet odor and a low boiling point; a solvent used for dry-cleaning; degreasing and drying metals and other solids; dissolving waxes, greases, oils, fats and gums and in other industrial applications. PCE is a potential occupational carcinogen. Evaporation of PCE increases as temperature increases.

**Total Petroleum Hydrocarbons (TPH):** Total petroleum hydrocarbons refer to a measure of concentration or total mass of petroleum hydrocarbon constituents present in a given amount of air, soil or water.

**Trichloroethene or Trichloroethylene (TCE):** A colorless liquid used as a solvent, metal degreasing agent, and in other industrial applications.

**Volatile Organic Compounds (VOC):** A large group of carbon-containing compounds that are easily dissolved into water, soil, or the atmosphere and evaporate readily at room temperature. Examples of VOCs include PCE, TCE, benzene, toluene, ethylbenzene and xylene. These contaminants are typically generated from metal degreasing, printed circuit board cleaning, gasoline and wood preserving processes.'

**Water Quality Assurance Revolving Fund (WQARF):** Also known as the State Superfund, WQARF is the program and funding used to address hazardous substance releases within the state that are not covered by other specific programs.